



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/882,826	06/16/2001	Che-Chih Tsao		9224

7590 05/19/2004
Che-Chih Tsao
16 Walnut St., #43
Arlington, MA 02476-6154

EXAMINER

FATAHI YAR, MAHMOUD

ART UNIT	PAPER NUMBER
----------	--------------

2674

DATE MAILED: 05/19/2004

5

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/882,826

Applicant(s)

TSAO, CHE-CHIH

Examiner

Mike Fatahiyar

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. The disclosure is objected to because of the following informalities: The title of invention and the family related applications cited on page 1 right above the abstract should be deleted and instead be cited on page 2 of the specification right above the heading "BACKGROUND OF THE INVENTION".

Appropriate correction is required.

2. Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1-18, there is more than one capital letter recited in each claim. Applicant is reminded that a claim must be written in a sentence form starting with a capital letter and ends with a period.

In claims 1 and 16, the recitation "programming the content of pixels....." is vague and indefinite because it is not clear to what it refers. Does it refer to the addressing and driving of the pixels?

In claim 5, line 2, the recitation "in the time domain" is vague and indefinite because it is not clear to what it refers to.

In claim 17, line 5, the recitation "defining a data coding relation" is also vague and indefinite because it is not clear to what it refers. Correction and or clarification is required.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 7-8, 10-13 and 16-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Clark(5,629,802).

Clark discloses a method and an apparatus for projecting a displayed image using a spatial light modulator(117) comprising defining a plurality of sub-panels(e.g., t1-t5) on the spatial light modulator(117), illuminating each sub-panel with a light of a different property(column 3, lines 13-15) and a computer image processor(127) connected to a programmable diffraction grating(109) for creating an illumination pattern and projecting the illumination pattern along multiple paths(S1-S5) onto the sub-panels(t1-t5) of the spatial light modulator(117) for displaying a desired image(see figures 1-2).

In regard to claim 8, Clark's diffraction grating(109) is also an aperture plate(column 3, lines 13-18).

As to claims 11-13, note the spatial light modulator(117) is a liquid crystal TV in which each sub-panel inherently contains closely interlocked pixels and the images of each sub-panel are merged in order to project a uniform image. Also, note the sub-panels are being isolated and separated from each other(column 1, lines 61-67 and column 4, lines 1-34).

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

Art Unit: 2674

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3-6, 9 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clark in view of Maki et al(6,609,796).

Clark is discussed above. Maki et al disclose a projection display apparatus comprising at least two spatial light modulators(112R-112B) utilizing some sort of color filtering for projecting and merging color images from all the spatial light modulators onto an image plane at a distance(see figure 1). Thus, it would have been obvious to one of ordinary skill in the art to modify the system of Clark with the above noted teachings of Maki et al such that to utilize more than one spatial light modulators and apply color filtering optics to the multiple paths(S1-S5) so that each sub-panel is illuminated with a different color because both references are related to projection devices utilizing spatial light modulators.

As to claims 5 and 15, note that the system of Clark is a multiplexed spatial optical signal processing, thus, the images T1-T5 are distributed in the sub-panel areas(t-t5) in the time domain.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Woodgate et al, Lowry, McCullough, Chuang et al and Favalora et al are made of record to show various types of image projection devices utilizing spatial light modulators.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Mike Fatahiyar** whose telephone number is **(703) 305-6911**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard Hjerpe**, can be reached at **(703) 305-4709**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

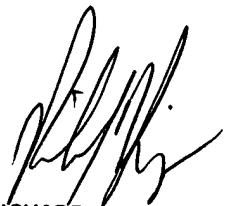
(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

MF
M. Fatahiyar

May 14, 2004


RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600
5/17/04